Supreme Court of the United States.

OCTOBER TERM, A. D. 1902.

No. 148.

KOKOMO FENCE MACHINE COMPANY

vs.

ALVA L. KITSELMAN AND DAVIS M. KITSELMAN.

Certiorari to the United States Circuit Court of Appeals for the Seventh Circuit.

BRIEF AND ARGUMENT FOR THE KOKOMO FENCE MACHINE COMPANY.

May it please the Court:

This case comes before the court on a writ of certiorari granted first on the petition of the Kokomo Fence Machine Company and afterwards on the cross-petition of Alva L. Kitselman and David M. Kitselman. The petition of the Machine Company was filed because of the alleged error of the Court of Appeals in sustaining and finding infringement of the Kitselman patent, and, after it was granted, the petition of the Kitselmans was filed because of the alleged error of the Court of Appeals in not sustaining and finding infringement of the Davisson, Connor and Pope patents. The orders for the writs appear at pages 556 and 558 of the Record.

The contention of the Kokomo Fence Machine Company is that the United States Circuit Court of Appeals erred in sustaining the Kitselman patent and finding infringement of the first, second, eleventh and fifteenth claims thereof, but that its decision as to the Davisson, Connor and Pope patents was right and should be sustained.

Statement of Facts.

On the 15th day of March, 1898, Alva L. Kitselman and Davis M. Kitselman filed their bill of complaint in the Circuit Court of the United States for the District of Indiana against the Kokomo Fence Machine Company and others, charging infringement of letters patent of the United States No. 289,507, issued December 4, 1883, to William J. Davisson, for machinery for making wire fabrics; No. 356,322, issued January 18, 1887, to Alva L. Kitselman and Davis M. Kitselman, for wire fabric machinery; No. 357,067, issued February 1, 1887, to Theodore M. Connor, for machinery for forming wire fabrics, and No. 505,607, issued September 26, 1893, to John C. Pope, for wire fabric machinery, and praying an accounting of profits and damages in the usual form.

An answer was filed in due course, proofs taken, and the cause brought on for final hearing before his Honor Judge John H. Baker, District Judge. On October 9, 1899, Judge Baker announced a decision in favor of the defendants, holding that the claims of the four patents sued on were for specific constructions which the defendants did not use, and that there was, therefore, no infringement of said letters patent, or either of them. (Rec. 517.)

The complainants appealed the case to the United States Circuit Court of Appeals for the Seventh Circuit, where it was duly argued before Judges Woods, Grosscup and Seaman. On April 9, 1901, the court announced its decision through Judges Grosscup and Seaman—Judge Woods dissenting—reversing Judge Baker as to the Kitselman patent, and holding that the defendants had infringed the first, second, eleventh, and fifteenth claims thereof. (Rec. 549.) It thus appears that Judges Grosscup and Seaman held that the Kitselman patent was infringed, that Judges Baker and Woods held that it was not, and that all of them agree that there was no infringement of the Davisson, Connor and Pope patents, though the views of Judges Grosscup and Seaman were only inferentially expressed in their opinion.

Assignment of Errors.

The Kokomo Fence Machine Company insists that the decision of the majority of the United States Circuit Court of Appeals was erroneous in the following particulars:

1. In finding infringement of the Kitselman patent, notwithstanding the alleged infringing acts were committed at a *particular place* and the patentees admit that *subsequent* to the issuance of the patent and *prior* to the alleged infringing acts they had sold *portions* of the United States, but *failed* to show that the alleged infringing acts were committed in territory *still* retained and owned by them.

2. In holding the Kitselman patent to be a pioneer patent for a portable or field machine, notwithstanding it was old to make *one* style of fencing with a portable

or field machine, and the Kitselman patent simply made *another* style of fencing, which style was itself old.

3. In holding that the Kitselman patent was infringed, even if it be considered as a pioneer patent, in view of the wide difference in mechanism and mode of operation employed in the defendant's machine.

4. In holding that the Kitselman patent introduced various novelties in construction and operation which were really old in other patents long prior thereto and not referable to Kitselman.

BRIEF AND ARGUMENT.

As both counsel and court have heretofore seemed to attach the most importance to the Kitselman patent, we will present the case first as to it, notwithstanding the fact that the Davisson patent is prior in date.

The Kitselman Patent.

The first question that arises is as to whether a patentee shows infringement where the alleged infringing acts were committed at a *particular* place and he admits that *subsequent* to the issuance of the patent and *prior* to the alleged infringing acts he had sold portions of the United States, *without* further showing that the alleged infringing acts were committed in territory *still* owned by him.

The Kitselman patent was issued directly to the complainants, and, on its face, vested them with full title throughout the whole of the United States and their territories. It appears, however, from the deposition of Mr.

Kitselman that since the issuance of the patent and prior to the commencement of this suit the complainants sold various state and county rights, so that they did not, at the time of the commencement of the suit, own such states and counties. Mr. Kitselman, on page 94 of the record, testified to the sale of territorial rights under the Kitselman patent, in which they sold the exclusive right to make, sell and use, by instruments in writing, in which the particular territory sold was specified. He was asked:

> "X-Q. 52. After you procured your patent in January, 1887, you say you began the manufacture of the machine. Is that the only way in which you exercised your monopoly or privileges secured by your patent?
>
> "A. We not only commenced the manufacture of the same, but the sale of the same, as well as territorial rights under said patent.
>
> "X-Q. 53. What did these territorial rights include?
>
> "A. The right to sell and use.
>
> "X-Q. 54. Did any of them include anything further than that?
>
> "A. Some few of the sales toward the last rights that we sold I think included the right to manufacture.
>
> "X-Q. 55. As well as the right to sell and use?
>
> "A. Yes, sir.
>
> . . . . . .
>
> "X-Q. 90. Were the territorial rights which you sold under the Kitselman patent sued on in this case for townships, counties or states?
>
> "A. Mostly for counties. We sold some townships and I think two or three state rights.
>
> "X-Q. 91. Were those sales made in written deeds or instruments, or simply verbally?
>
> "A. They are what would be called a written instrument, partly printed and partly written."

From the above it appears that territorial rights for

counties, townships and "two or three states" had been sold under the Kitselman patent. These territorial rights were conveyed by written instruments. In some cases they conveyed the three rights—to make, sell and use. Though Mr. Kitselman in some places spoke of them as licenses, they were in fact assignments of specified territory, because they were *exclusive* of the patentees and everybody else. (Rec., 94; X-Qs. 56, 57.) According to the admissions of Mr. Kitselman, the complainants had, therefore, ceased to have any rights in the territory sold. Such rights belonged wholly to the licensees or grantees and if the Kokomo Fence Machine Company committed infringing acts in their territory they, and not the complainants, were the ones to sue.

Under repeated decisions of this court the conveyance in writing of a territorial right or license which includes the right to *make,* to *sell* and to *use* the invention—the three rights—operates as an assignment. To cite a single case.

In *Waterman* v. *MacKenzie,* 138 U. S., 255, this court said:

> "The patentee or his assigns may, by instrument in writing, assign, grant and convey, either 1st, the whole patent, comprising the exclusive right to make, use and vend the invention throughout the United States; or, 2d, an undivided part or share of that exclusive right; or, 3rd, the exclusive right under the patent within and throughout a specified part of the United States. Rev. Stat., Sec. 4898. A transfer of either of these three kinds of interest is an assignment, properly speaking, and vests in the assignee a title in so much of the patent itself, with a right to sue infringers; in the second case, jointly with the assignor; in the first and third cases, in the name of the assignee alone."

Under the above decision and others of like purport the deeds or instruments, which the complainants admit that they gave in this case, conveying the *exclusive* right to make, sell and use the invention of the Kitselman patent for certain townships and counties and "two or three states," operated as assignments and fell within the third class of assignments enumerated by the court above. The owners of these townships, counties or states are entitled to sue for infringements, alone and without joining the complainants. Anybody infringing the patent in their territory is amenable to them alone. The complainants have no interest in the matter, are not damaged, have no right to complain. They cannot sue for such infringements because they have no title to the Kitselman patent *in* the territory where they are committed.

The complainants have not introduced the deeds showing the territory parted with by these sales, nor have they shown that, notwithstanding these sales, they still own *the very territory where the defendants have been manufacturing and selling.* The only testimony in the Record to show where the defendants have been manufacturing and selling the alleged infringing machine will be found on page 22 of the Record, where, in response to a question by complainants' counsel, to avoid the calling of witnesses, the defendants' counsel, after consulting with Mr. Fredrick, one of the defendants, admitted that machines like the defendants' machine, offered in evidence by the complainants as "Complainants' Exhibit Defendants' Machine." were being made and sold at *Kokomo*, Indiana. Kokomo, Indiana, is in Howard County, Indiana. There is nothing in the Record to show that the defendants have ever manufactured or sold a single machine *out-*

side of Howard County, Indiana, but Howard County, Indiana, *may have been* one of the counties that the complainants have sold under the Kitselman patent. It is for the complainants to show affirmatively that they own the territory where the alleged infringements occured. They have stated that they had sold various counties and states under the patent, and that they were sold by written instruments. These written instruments may never have been put on record. The defendants have no knowledge of the purchasers of these counties and states. They do not know where to find them. They have no means of procuring copies of the deeds or instruments, if they have not been put on record. The complainants, however, must know to whom they have sold territory *and the territory* that they have sold. They should have shown *affirmatively* that they had not *parted with the territory* in which the alleged infringing acts occured.

When they had introduced the patent issued to themselves they showed a *prima facie* ownership of the entire country—they had made out a *prima facie* case as to title. They have *destroyed* that *prima facie* case, however, by admitting that they did not own *as much* territory as the patent on its face covered. They admit that they have sold *some* of the territory, some townships, some counties, some states. This admission destroyed their *prima facie* case as to title at least as to some townships, counties and states. After such admission they should have affirmatively shown that such sales of territory *did not cover* the territory where the alleged infringing acts were taking place—or rather that, notwithstanding such sales, they still owned such territory. Such affirmative testimony was necessary to *restore* their *prima facie* case.

The presumption of law is that the defendants are not doing anything that they do *not have the legal right to do;* that their acts are *lawful.* When, therefore, a complainant admits that he owns only a part of the territory of the United States under his patent, but fails to specify the particular part that he does own, the *presumption of innocence* just suggested will cause the court to presume that the acts complained of were in the territory *not owned by the complainant,* as otherwise the court would have to presume that the defendants were guilty; that they were manufacturing and selling unlawfully ;that they were operating in territory belonging to the complainant and where they had no right. When complainant shows that his interest has been *severed* he must, in order to recover against a particular defendant for infringement committed at a *particular* place,show that such place is in the territory *still owned* by him. The complainants have failed to do this.

In the state of the proof as left by the complainants and for the reasons suggested above, we must submit and insist that the complainants cannot recover, because they have failed to show *title* to the *particular* territory where the defendants' aleged inringing acts have taken place.

2. *The Second Question Presented.*—Where it was old to make *one* style of fencing with a portable field machine, can a portable field machine for making *another* style of fencing—such *other* style of fencing *being old*—be considered as a pioneer machine?

The United States Circuit Court of Appeals fell into a mistake of fact and law in holding that the Kitselman

patent was a pioneer patent, considered with reference to field machines, and entitled to the liberal consideration accorded to such patents.

a. The Kitselman patent on its face describes a machine applicable for either *stationary* or *field* work, but whether built in the one form or the other it was the same *machine,* the same *apparatus.* In the second column of the first page the specification says that *"when* the apparatus is to be constructed in portable form" it is to be made so and so. Still, however made, it is the same *apparatus.* The specification proceeds to describe with great minuteness the details of construction, and then just before the claims says:

> "I may either construct a portable machine, as shown in the accompanying drawing, to work in the open field or other place, or dispose the parts in a horizontal instead of a vertical position and mount the same on suitable bearings and legs to provide a stationary machine for indoor use."

It thus appears that it is the same machine, but is vertically disposed when used as a field machine and horizontally disposed when used as a stationary machine. No distinction is drawn between the machine *as* a machine, whether employed in the one method or the other. The two methods of use are treated as equivalents. No importance or stress can, therefore, properly be laid on the fact that the machine is usable as a field machine.

b. The Kitselman patent was also intended to build, among other things, a combined wire and picket fence the *same as built* by the Fultz 1884 patent or the Middaugh & Wilcox 1884 patent, as will appear from a comparison of

Fig. 19 of the Kitselman patent, p. 384, Fig. 1 of the Fultz patent, p. 450, and Fig. 2 of the Middaugh & Wilcox patent, p. 456. The Kitselman patent was, therefore, intended as a field machine to do *the same work* that was done by the prior patents. Hence, it made those patents capable of making certain kinds of fence, full anticipations of its machine as a field machine for making *similar* kinds of fence.

Furthermore, the Middaugh & Wilcox patent *claimed* a portable machine (460). Each of its 10 claims in express words called for "a portable fencing-machine," or "in a portable fencing-machine" the combination of certain devices. Here then was a patent issued several years before the Kitselman patent which not only showed but which also *claimed* a "portable fencing-machine." No subsequent patent could thereafter claim broadly a portable machine for making a fence or be construed as broadly for such a machine. No subsequent patent could be a *pioneer* patent for a portable fencing-machine. It must be simply for *improvements* in such machines—must be confined to the *differences* between them. And certainly differences in the *mechanisms* and in the *kind* of fencing are insufficient to make the *later* patent a broad pioneer patent over the *earlier* patent for a "portable" fencing-machine.

c. The only claim presented in the Patent Office for a field machine was the original nineteenth claim, printed at page 355 of the Record, which read:

> "19. In a wire fabric machine, the combination of a track, a carrying frame geared to the track and having the twisting devices and the wires, and pawl and ratchet mechanism for feeding the frame and its devices, substantially as described, for the purpose set forth."

The claim was rejected on the Fultz and other patents, and the rejection was acquiesced in and the claim withdrawn.

When, Kitselman presented this claim for a field machine and such claim was rejected on the Fultz and other patents and he failed to appeal and acquiesced in the rejection and withdrew his claim, he precluded himself from claiming a *construction in court* which protected his machine distinctively *as a field machine*, much less as a *pioneer* field machine.

d. The claims relied on are not for combinations *specifically required* for a field machine, but for combinations that are *equally adapted* for a stationary machine. They have no special *applicability* to the one form of machine or the other. They cannot, therefore, be considered as giving *distinctive* character to the machine as a *field* machine. In discussing this the defendants' expert, Mr. Wiles, on page 144 of the Record, says:

> "The second patent in suit, No. 356,322, issued January 18, 1887, to Alva L. Kitselman, is for Improvements in Wire Fabric Machines, and shows and describes a machine adapted for use in the field, as distinguished from machines of the loom type like those of Davisson and Nesmith. There is, however, no claim of the patent relating to a field machine, as distinguished from a loom; and the fact that the Kitselman machine is a field machine is therefore wholly immaterial, and any comment on the fact is entirely irrelevant to this suit. Furthermore, Kitselman was not the originator of the idea of a field machine for building wire fence in the field. A well known form of fencing made long before Kitselman's invention was that in which longitudinal pairs of wires were intertwisted, with vertical slats or pickets inserted between the twists at suitable intervals; and

Kitselman states in his specifications that his machine is adapted to make such fencing, the structure of the fence itself being illustrated in Fig. 19 of the drawings of the Kitselman patent. This fencing was made on stationary machines, or looms, such, for instance, as that shown in U. S. patent No. 312,063, issued to George C. Adams, February 10, 1885, for Improvements in Fence Making Machines; and machines adapted to make such fencing in the field are shown in various patents prior to the Kitselman patent, as, for instance, in U. S. patent No. 298,368, issued May 13, 1884, to John M. Fultz; for Improvements in Upright Wire-fence-making machines, U. S. patent No. 309,724, issued December 23, 1884, to Middaugh & Wilcox for Portable Fence Machine, and U. S. patent No. 347,064, issued August 10, 1886, to William H. Reppeto, for Improvements in Wire-fence Machines. In the use of all these portable machines, or field machines, the longitudinal wires were stretched between suitable supports in the field and passed through tubes or spindles in the frame of each machine, the machine in every case being moved along the wires as the fence was formed. The step of change or improvement from the stationary or loom machine to the movable field machine having been taken in the manufacture of one form of wire fencing, there was evidently no invention in the mere change from the loom to the field machine in the manufacture of the other well-known form of wire fencing. Furthermore, as may be seen by examining any one of the three patents just referred to, the field machines for making wire and slat fencing have the same characteristics adapting them to use in the field which is found in the Kitselman machine or any of these other field machines for making diamond-mesh fencing. Each of them has a vertical frame supporting its working parts, the frame being provided with means for moving it readily along the line of fence and being adapted to permit the passage through it of the longitudinal wires of the fence. The operating parts were adapted for the manufacture of the partic-

ular fencing which the machines were intended to make."

In fact, the complainants' expert, Mr. Dayton, admitted that, so far as the *essentials* of the four patents sued on are concerned, it is *immaterial* whether they are embodied in a *portable* machine or a *stationary* machine. On page 59 of the Record Mr. Dayton testified:

> "In my opinion, the essentials of the inventions described in the several claims here in suit are not dependent on their use in a stationary or portable machine, or in a power or hand machine, or upon their capacity to weave a fabric in which slats may or may not be used, or upon their capacity to weave a fabric of any special size of mesh."

e. The only novelty that the Kitselman machine can be said to have, if it have any, rests in the *means* for weaving the fabric. The *fabric* itself was old in the Davisson patent, to mention no others. Portable or field machines were also old. The opinion of the court concedes that portable or field machines, *broadly considered,* were old, as in the Middaugh & Wilcox patent, to mention no others. The Kitselman machine and the Middaugh & Wilcox machine, made the two old kinds of fabrics—the Kitselman a diamond-mesh and a wire and picket fence (see Figs. 11 and 19) and the Middaugh & Wilcox machine a wire and picket fence—both *old* kinds of fabric.

If the Kitselman machine be used as a portable machine to make a *diamond-mesh* fence it would make an *old* style of fabric; if used to make a *wire and picket* fence it would make an *old* kind of fabric. No novelty can, therefore, be imported into the Kitselman machine, on account of

the *fabric* woven. In this state of things the only thing that Kitselman can be held to have done was to set his machine up on end *like the Middaugh & Wilcox machine*, for example, and use his mechanism to weave the old fabric while the machine was in a *standing* position. This is what he did and all that he did to convert it *from* a stationary to a portable machine. He simply set it on end and mounted it on a truck, but made no change in the *mechanism*. The *mechanism* was the *same* and the *operation* was the *same*, whether the machine was *lying* down or *standing* up. As already quoted from the specification, *all* that was *necessary* to convert the machine from a portable machine to a stationary one was to "*dispose* the parts in a *horizontal* instead of a *vertical* position and mount the same on suitable bearings and legs to provide a stationary machine for indoor use," and all that was necessary to convert it back again was to stand it up on end. Whether lying down or standing up it was the same *machine*, the same *structure*, the same *mechanism*. But with portable machines *already* in the field making fence of *one* kind, we submit that there was no invention required in mounting a machine which made a fence of *another* kind on a truck and using it also in the field. Such *conversion* from one form of machine to the other ought not be called an *invention*, much less a *pioneer* invention.

But if Kitselman was entitled to a pioneer patent over Fultz or Middaugh & Wilcox because his machine produced a *different* kind of fabric, then the next man that comes along with a stationary machine for producing a different kind of fabric from Kitselman will also be entitled to put it on a truck, make it a *portable* machine and call it a *pioneer* patent, because it makes a *different* kind of fabric from the kind made by Kitselman, just as the majority

of the court has considered the Kitselman patent as a pioneer one because its fabric differed from the fabric of the machine of Fultz or Middaugh & Wilcox. We submit that the logic of the majority of the court leads to such a positon, but that it is untenable.

3. *The Third Question Presented.*—Even if the Kitselman patent be considered as a pioneer patent for a field machine, the defendant's machine is so widely different from it in mechanism and mode of operation that it cannot be considered an infringement.

The majority of the Circuit Court of Appeals has fallen into error in the application of the law in relation to pioneer patents. A pioneer patent does not cover *all* forms of machine for producing the same result, but only those machines which produce the same result in substantially the same way and with substantially the same mechanism. The *mechanical means* employed by the defendant may be so different from those employed in the pioneer patent that there can be no infringement. The decision of the majority of the court seems to lose sight of the fact that, even though the Kitselman patent be a pioneer one, the defendants *are at liberty* to devise and use *other forms* of mechanism for producing the *same result* without infringing it. Even if the Kitselman patent be a pioneer patent it cannot cover *every combination* of devices for producing the same thing.

In *Westinghouse* v. *Boyden Power Brake Co.*, 170 U. S., 569, this court, in considering a patent which they held to be a pioneer, said:

> "*Even if* the patent for a machine be a pioneer, the alleged infringer must have done something more than reach the *same result*. He must have reached it

by *substantially same or similar means,* or the rule that the *function* of a machine cannot be patented is of no practical value. To say that the patentee of a pioneer invention for a new mechanism is entitled to every mechanical device which produces the same result is to hold, in other language, that he is entitled to patent its function. . . .

"Conceding that the *functions* of the two devices are *practically the same,* the *means used* in accomplishing this function are so *different* that we find it impossible to say, *even in favor of a primary patent,* that they are mechanical equivalents."

While it is contended on the part of the Kokomo Fence Machine Company that the Kitselman patent is not to be considered as a pioneer patent for a field machine, but merely a patent covering the specific improvements, yet, however it may be considered, it is insisted that it is not infringed by the widely different means and mode of operation employed in the defendant's machine. This necessitates a consideration of the Kitselman invention and a comparison with it of the defendant's machine.

The particular claims of the Kitselman patent held to be infringed under the majority opinion of the Circuit Court of Appeals are the first, second, eleventh and fifteenth. These claims are as follows:

"1. In a wire-fabric machine, a series of sectional twisters, each of which comprises a central section for carrying a warp-wire, and having rotary movement imparted thereto, and the shifting sections for carrying the weft-wire, and receiving rotary motion from the central section to form the twist, substantially as and for the purpose herein described.

"2. In a wire-fabric machine, the combination of a series of sectional twisters geared together for simultaneous rotation, and each comprising a central portion movable on its axis and side portions capable

of a compound movement—that of rotation on their axes—and of a shifting longitudinal movement, substantially as described, for the purpose set forth.

"11. In a wire-fabric machine, a series of twisters connected for simultaneous operation, and each consisting of a central section and the side section, in combination with the spools carried by the side sections, the central section of each twister being provided with a longitudinal opening for the passage therethrough of the warp-wire, substantially as described.

"15. In a wire-fabric machine, the combination of a series of rotary twisters geared directly together for simultaneous operation, each twister having a central section capable of rotary movement only, and two side sections which are capable of a shifting movement independtly of the central section in opposite directions simultaneously, whereby the said shifting sections of one twister are adjusted to register with the central sections of twisters on opposite sides of the same, substantially as described, for the purpose set forth."

One of the features of all these claims is the sectional twister. Sectional twisters appear as an element in each of the claims sued on, although somewhat different terminology is employed in the different claims to designate them. In some of the claims they are spoken of as "a series of sectional twisters;" in others as "a series of twisters;" and in others as "a series of rotary twisters." They are, however, the same mechanical elements under whatever different names they be designated in the claims. In cross-question 72 on page 88 of the Record, Mr. Dayton, the complainants' expert, said "that the terms 'sectional twisters,' 'twisters' and 'rotary twisters,' used in the several claims under consideration, refer to the same three-part twister devices." We may, therefore, consider that all of the claims of the Kitselman patent in

suit call for "three-part twister devices" in the various designations under which the twisters are called for. The combination or structure, therefore, called for in the claims of the Kitselman patent relied on is one in which three-part twister devices form a prominent and distinguishing element or characteristic. With these preliminary remarks we are prepared to take up and consider the Kitselman machine of the claims of his patent sued on.

By turning to the drawings of the patent and looking at Fig. 1, we will perhaps get the best general idea of the Kitselman machine embodied in portable or field form. This drawing presents the machine to us as it would appear to the eye when we were standing by its side looking at it performing its work in the field. Thus looking at the machine, we see the edges of three vertical boards held together by cross-pieces forming the frame of the machine in which the various parts are mounted and maintained. The rear frame board—the one at the right hand—contains the crank by which motion is imparted to the working parts of the machine. We see arranged between the rear board and the one next to it a series of hollow spindles or tubes, on which a series of gear-wheels are rigidly mounted to rotate the spindles as they are rotated by the turning of the crank. These hollow spindles or tubes project forward though the middle vertical board, after which they are represented as flattened out instead of being round, and as provided at each end between the middle board and the front one with laterally projecting cross-pieces. This will be readily understood by looking at Fig. 4, where the machine is sawed in two from top to bottom, bisecting the various parts. A still clearer view of this perforated tube or spindle will be got by looking at Fig. 7, where it is shown detached and as the *central* one of the three pieces

shown in such figure. The holes through the center of the spindles are intended to permit the passage of intermediate longitudinal tension or warp wires. This peculiarly shaped *central* perforated tube or spindle is *one* of the members of the three-part twisters. It is, however, *but* one of the members and is useless and inoperative until complemented and supplemented by two *side* sections. which are illustrated in detail and as detached in Fig. 7. In this figure we see the side sections ready to be moved up against the central section to form the complete three-part twister. These side sections are intended to receive and carry the spools containing the weft wire to be twisted into the meshes. Without them there would be no support provided for the weft-wire spools. When they are moved up against the central section their laterally projecting segmental shaped end pieces will be found to be parts of circles corresponding to that contained in the end pieces of the central spindle or tube. Together they form circles or wheels journaled or supported in suitable bearings in sliding bars arranged between the two forward vertical frame boards of the machine. In performing their work these *side* sections are intended to *slide* alternately up and down—play back and forth—from one central perforated spindle to the next adjacent one. They are intended to be shifted by a *direct lateral* movement, pushing or pulling them up and down, back and forth, so that part of the time a given side section is in conjunction with one central spindle, and part of the time in conjunction with the next adjacent one. The sliding bars supporting them can be slid up and down by means of a lever to push and pull these side sections up and down in effecting their connection and conjunction with one spindle or another. These sliding bars are connected at the top of the machine by a walking-beam, to use the mechanical term, projecting at

one end into a lever, so that they move in unison—one moving up as the other moves down. These sliding bars and their method of operation will be readily understood from an examination of Figs. 5 and 6 of the drawing, where they are illustrated as one up and the other down—the one that is up in Fig. 5 being down in Fig. 6, and *vice versa.*

Mr. Wiles, the defendants' expert, explains the construction of the Kitselman machine in detail, but we will merely refer the court to his description (Rec. 145-148) if further explanation of its construction and operation be desired.

From the above examination and analysis of the Kitselman machine, it will be apparent that one of the most prominent and important features contained in it, as already suggested, is the three-part sectional twister. This three-part twister, to again suggest its peculiarities, has its central part rotary, but not capable of movement up or down, while it has its two side parts movable up and down alternately to make connection with the central part of the adjacent twister. The central part is flat and provided with projecting end pieces, and the side pieces are flat on the inside and are provided with heads in the form of segments of circles, so that when they are brought into contact with the central pieces the heads form wheels or circles. The side pieces carry the spools on which the weft-wire is wound, so that as they are moved up or down they carry the spools with them and thus permit the twisting of the diamond mesh fabric. Means must necessarily be understood as present for *imparting rotation* to the hollow spindles and thereby to the complete and assembled twist-

ers, as otherwise the machine could not be operative. Means must also be understood as present in the machine for *sliding* the segmental or side portions of the twisters *up and down* at the will of the operator to effect the shifting of the twisters, as otherwise the machine could not do its work. The claims in suit, therefore, cover a structure in which there are necessarily present hollow spindles, means for rotating the spindles, a portion of the spindles flat with laterally projecting heads, two side sections to complement and supplement each spindle, provided with segmental heads to match the flat central pieces and form the three-part twisters, spools mounted on the segmental side sections of the twisters and means for shifting or moving the side sections of the twisters up and down in a *direct right line* to effect the shifting of the spools from one twister to another.

Kitselman was not the first to show or describe split or divided twisters. The Whitehead 1854 British patent, introduced as a *printed* publication, describes and shows split or divided twisters in which the two halves of the twisters are shiftable or movable up and down to cross the wires and make the diamond mesh. This is well illustrated in the drawings of the British patent following page 512. This British patent also shows and describes means for moving or shifting the two parts of the twister up and down to effect their change of positions whenever the operator desires. This Whitehead British patent, however, does not show or describe a *three*-part twister in which the central part is flat and provided with projecting ends to permit the segmental parts of the twister to be brought into such position that they make wheels at the ends to permit the twister to be journaled at each end.

The Smith British *printed* provisional specification of 1876, at page 516, clearly describes a *three*-part twister like that shown and described in the Kitselman patent. This British patent is not provided with drawings and was never carried further than a provisional specification. This, however, was *printed,* and so forms a *printed publication,* which, under the statute, is as good for purposes of reference and defense as are patents. The language of this British printed publication is very plain and intelligible to any one whether he be a mechanic or not. It first describes a two-part twister and then describes a three-part twister, exactly like that of the Kitselman patent. We will quote the portion of the publication that describes these twisters:

> "I apply to the lower part of the machine feeding bobbins, supplied with the wires or cables, which pass up to the work in suitable guides, and I cut a space out of the center of one of the halves of the twisting wheels (which are always made in two parts) so that my wires shall pass through; then when the divisions of the wheels are carried apart by the ordinary sliding bars my wires are pushed up by guides out of the spaces in the wheels into slots in one of the sliding bars about mid-way between the turning wheels and on the opposite side of its half-wheel, so that my wire may be held while the twist is made, and they are thus relieved from the action of the twisting wires which form the mesh. Or I divide the twisting wheels into *three* parts, my extra wire passing through the *central* division, and the two *side segments* travel to and fro to form the twist, leaving the central division in position with my supplementary wire therein maintained."

The language descriptive of the three-part twister is exactly applicable to the Kitselman twister. There is no misunderstanding its meaning. It is useless for complain-

ants' experts to ridicule its brevity or claim that it is too meagre, indefinite and general to convey to mechanics skilled in the art, and who have a knowledge of the two-part twister of the Whitehead 1854 British patent, or the three-part twister of the Nesmith patent, a sufficient and definite knowledge of how to make a three-part twister like that of the Kitselman patent, in view of the Whitehead and Smith British printed publications.

These British publications were referred to by the Examiner when the Kitselman application was pending in the Office, and Kitselman made many changes and modifications in his claims in order to avoid them and other references. By turning to page 352 we will find the claims as Kitselman *originally* presented them to the Office. The first claim, as originally presented, called for "a series of sectional twisters geared directly together." The second claim called for "a series of sectional twisters capable of sliding movement with relation to each other and geared for simultaneous rotation." The third claim called for "the series of sectional twisters comprising the central hub section and the two side sections disposed on opposite sides of the central section, the hub section being stationary, while the side sections are capable of shifting movement." The fourth claim called for "the series of sectional twisters, each of which comprises a longitudinal immovable section and two sections which have longitudinal movement." The fifth claim called for "the series of sectional twisters, each of which comprises the central portion carrying the warp-wires and the shifting side sections which carry the weft-wires."

We have quoted these five claims as they were orig-

inally presented to show that the sectional twisters were *claimed broadly* and in various forms of language. By reference to pages 353-5 the court will see other claims that were originally presented and which were afterwards erased, in which the sectional twisters also form the prominent and principal features.

By reference to the letter from the Office printed on page 357 it will appear that the first and second claims above quoted, among others, were rejected on certain patents mentioned.

Thereupon, as will appear from the letter by Kitselman to the Office, printed on page 358 *et seq.* claims 1 and 2 were erased and others substituted in their place. Claim 1, as substituted,called for "a series of rotary twisters geared directly together for simultaneous rotation, each having two sections which are capable of sliding movement." Claim 2, as substituted, called for "the combination of a series of rotary twisters geared directly together."

Thereupon, as appears from page 361, the Office wrote again rejecting substitute claims 1 and 2, and citing the Nesmith 1854 patent as grounds for the rejection.

In response to this letter, as appears from page 362, Kitselman withdrew substitute claims 1 and 2, and changed the numbers of original claims 3, 4 and 5, already quoted, to 1, 2 and 3, and made corresponding changes in the numbers of the other claims.

After further examination, as appears from the letter of the Office printed on page 364, the Office discovered the

Smith British printed publication of 1876, describing the split or divided twisters, from which we have quoted, and on the strength of it rejected claims 1, 2 and 3, which we have already quoted as original claims 3, 4 and 5.

Thereupon, as appears from page 364, Kitselman also withdrew these claims 1, 2 and 3, original claims 3, 4 and 5, and submitted claim 1 as it now stands.

It thus appears that the first five claims, which we have already quoted and which broadly claimed the split or divided twisters, were rejected on various patents, and that *three* of them were rejected on the Smith British provisional specification, which we have introduced as a printed publication, and that Kitselman acquiesced in such rejections and withdrew his claims for the split or divided twisters *broadly*.

The law is so well settled in this court that where a party makes a claim for a mechanism broadly and such claim is rejected upon references, and he acquiesces in the rejection and withdraws his claim in order to get his patent, he is thereafter forever precluded from putting a construction upon the claims allowed him which would make them mean the same thing, or substantially the same thing, as the claim which he has once presented and afterwards withdrawn, that quotations are unnecessary. *Morgan Envelope Co.* v. *Albany Paper Co.*, 152 U. S., 429, and cases cited.

It also appears from the file-wrapper and contents, page 357, that claim 19, being the only claim for a *portable or field machine, per se,* was rejected on the Fultz patent,

which shows a portable or field machine, page 451, and that it was thereupon withdrawn, page 359.

In view of these proceedings in the Office, irrespective of the language of the claims themselves, it is apparent that the claims of the Kitselman patent sued on must be limited in their scope to the actual combination of the essential parts found in the Kitselman machine, combined as shown and described, and operating as shown and described. They cannot, in consonance with legal principles, be construed to cover *other* combinations which, although effecting the same general results, are made up of elements of different construction and arrangement from those found in the Kitselman machine.

An examination and study of the claims of the Kitselman patent sued on show that they are drawn to *aptly describe* the Kitselman construction *just as it is represented* and described in the drawings and specification. In all of the claims are to be found, called for and required the *three*-part twister, the central part being *flattened* and provided with laterally projecting cross-pieces at the ends, and the side pieces being *flattened* on their *inner* sides and provided with *segments* of circles at each of their ends, so that the completed twister will be provided with *wheels* at each of its ends, which lie in suitable openings in the sliding-bars to support the twister. In addition to this, the side pieces are capable of being shifted and by the construction and arrangement shown they must be shifted *laterally* in a *direct* line from one central hub to the next adjacent. In addition to this there must be the *sliding bars* capable of engaging the segmental ends of the side pieces and shifting them up and down. All of the claims of the Kitselman patent sued on must be held to be *lim-*

ited by their language, by the prior art and by the proceedings in the Patent Office, to the combinations of the specific elements shown and described in the Kitselman patent—that is, to the specific construction of the twisters of the Kitselman machine and their associated parts. To attempt to give the claims a broad construction will cause them to be met by the Davisson and Nesmith patents.

It appears that Kitselman took out a Canadian patent, which was as to its drawings, specifications and claims, substantially, not to say literally, a copy of the Kitselman patent sued on, as is admitted by complainants at page 185. This Canadian patent was involved in litigation in Canada. A party named Cochrane was manufacturing a fencing machine in Canada and a party named Risdon, who owned the Kitselman Canadian patent, commenced suit against him at St. Thomas for infringement. Kitselman was a witness in this suit in behalf of his own patent, page 97. The matter was argued before Chancellor Boyd at St. Thomas, and his decision was announced October 18, 1892. The court will find it printed, beginning at page 117. Chancellor Boyd held that there was no infringement. He held that the Kitselman machine "is not a *new* machine," but merely a "new adjustment of parts to accomplish a *given* result." Among other things, in speaking of the Canadian Kitselman patent being a duplication of the patent sued on, Chancellor Boyd on page 117 said:

> "It is a patent for a combination, and one of the difficulties in such patents is that any person with skill making a different combination, which is either materially or essentially different, or which produces the same result by a simplification of the parts, is able to hold his ground against the combination. The essence of an infringement of a combined patent is a

repetition of the parts of that patent. It may be that if merely colorable changes are made a person would not escape the penalties of such an infringement. But if they are something more than colorable variations then the particular combination of parts is not infringed. The patent consists in the particular combination."

From this quotation from Chancellor Boyd's opinion, it will appear that the principles applicable to combination patents are the same under the Canadian law as in this country. A patent for a combination must be limited to the combination *claimed*.

Applying this principle, Chancellor Boyd held that the Kitselman patent was a limited combination patent that must be confined *strictly* to the particular parts and elements claimed; and that, therefore, there was no infringement by the defendants' machine. We have introduced in evidence a duplicate of the machine in controversy before Chancellor Boyd, except that the machine actually in suit did not contain the short stationary hollow spindles that the court will see in the Cochrane machine offered as an exhibit. In other respects, however, the machine is a copy or duplicate of the one which Mr. Chancellor Boyd held did not infringe the claims of the Kitselman patent. We invite the attention of the court to this Cochrane machine when the question of infringement is reached, and suggest that the Cochrane machine, which was held by Mr. Chancellor Boyd to be no infringement, is far *nearer* in construction and operation to the Kitselman machine than is the defendants' machine.

Having considered the construction and operation of the Kitselman machine and meaning and limitations of the

patent, we are prepared to take up and consider the construction and operation of—

The Defendants' Machine.

The defendants' machine is fully described and claimed in the Whitney patent No. 552,025, issued December 24, 1895, to W. D. Whitney (Rec., 507), under which the defendants are licensed and through which they justify. When we turn to this patent and to the defendants' machine we find it entirely different in appearance from the machine of the Kitselman patent sued on. Its external dimensions and simplicity strike the eye and arouse the mind. It is so different from the machine of the Kitselman patent in suit or of the prior art that the mind instinctively feels that it contains and embodies invention. To look at the defendants' machine and then to be told that it is the Kitselman machine excites doubt and incredulity. When we come to compare them point by point the differences appear so striking, so essential, and the similarities so faint, so far fetched, that the skepticism excited at the first grows into a fixed conviction that the two machines have nothing in common that either can claim. The defendants' machine will be found to differ from the Kitselman machine in everything that differentiates it from the prior art.

Structurally the defendants' machine comprises a vertical upright bar or support; a series of hollow tubes fixed rigidly and non-rotatably in such vertical support; a series of intermeshing, rotatable gears mounted loosely on the stationary hollow tubes as journals and arranged next to the upright support, and provided with two forwardly projecting rigid studs at the opposite sides of their axes

or centers; a set of plates loosely surrounding and journaled on the hollow tubes with a space of about one-half inch between them and the gears and connected rigidly to and rotating with the intermeshing gears and provided with two rearwardly projecting spring pins or studs at opposite sides of their axes or centers and disposed at the distance of about an inch and a quarter from the rigid forwardly projecting studs on the gears; a set of spool-carriers each mounted on a plate having inclined notches at the diagonal corners on one side and inclined grooves at the opposite diagonal corners on the other side, so that when one side of the plate is inserted between a gear and its plate one of the rigid studs may pass along a groove on one side and a spring pin or stud pass into and catch against the notch on the opposite side and thus retain and support the spool-carrier as long as the parts are rotated in the same direction, whether it be a minute, an hour or a day; spools for the woof wires mounted in the spool-carriers; and of course means for imparting rotation to the intermeshing gears. When it is desired to transfer the spool-carriers the parts are rotated until the carriers are between the stationary spindles, when the direction of rotation is reversed. This causes a spring pin and a rigid stud on the adjacent gear to enter the empty or unoccupied groove and notch in the carrier-plate and to lift it out of connection with the gear-plate with which it had been rotating and to carry it around in its new position or relation as long as rotation is continued in that direction. When it is desired to shift it again to bring it into relation with another gear and plate the direction of rotation is again reversed. This is kept up as long as the machine is in operation.

Mr. Wiles, the defendants' expert, describes the construction and operation of the defendants' machine, beginning on page 138, to which we refer in case the court desire a more complete and detailed description.

If the court will read our above description of the construction and operation of the defendants' machine, particularly with the perforated model of such machine at hand, it will not be difficult to understand the same, as all of the parts and operations can be easily and readily followed in the model.

Infringement of the Kitselman Patent.

Before beginning a detailed comparison between the Kitselman patent and the defendants' machine, we desire to call attention to a rule of law as enunciated by this court to the effect that where the defendants justify under a patent, as the defendants do here, the issuance of such patent to them raises a presumption in *their* favor—a presumption that they have a *right* to manufacture their own patented machine as well as the complainants have to manufacture theirs. This is particularly so where the patent under which the defendants operate is not obviously for an *improvement* upon the complainants' patented machine—does not obviously take the complainants' machine as a foundation and starting point. This rule is so well established that we deem it unnecessary to do more than to cite a few cases where it has been announced. See

Corning v. *Burden*, 15 How., 271.
Miller v. *Eagle Mfg. Co.*, 151 U. S., 208.
Boyd v. *Janesville Hay Tool Co.*, 158 U. S., 261.

In view of the above decisions we are entitled to insist that weight should be given to the fact that the defendants' machine is also a *patented* machine. If the court will read the claims of the Whitney patent No. 352,025, under which the defendants justify, it will be evident that the office has allowed broad claims exactly descriptive of the defendants' structure, and this notwithstanding the existence of the Kitselman patent and without reference to it. We therefore ask that the court give the defendants the benefit of the presumption which this court in the above case say they are entitled to.

From our consideration of the Kitselman patent we think it will be apparent that it is only for *improvements* in the art and is not for *pioneer* inventions. The Kitselmans did not *initiate* the *art*. They simply *improved* upon the work of *others*. The law is well settled that all parties have an equal right to take the same starting point in the art and to improve from it. The complainants and the defendants alike could take the Nesmith patent of 1854 as a foundation and improve upon it as their ingenuity and inventive faculties suggested and permitted. But all improvers must submit to the established principle of law that they cannot suppress *other* improvements which are not merely *colorable* variations from their own. Unlike the pioneer inventor, the improver is restricted to a narrow field and is closely circumscribed by the boundaries which the necessities of the case have required and imposed. The discoverer of a new country can locate where he pleases, as the whole domain is open to him. After the country has become somewhat settled, however, the new immigrant can only settle on the land left unoccupied by his predecessors. The Kitselmans were not discoverers

but settlers, who at the most, slightly extended the frontier. The principle of law here invoked has been applied in many cases, beginning with *McCormick* v. *Talcott*, 20 How., 405, and is too familiar to require the citation of authorities.

The question of infringement of the Kitselman patent was carefully considered by the defendants' expert, Mr. Wiles, and his discussion of the question seems to us to be clear and conclusive. It will be found on pages 157-8, and we refer the court to this expert testimony if it should be deemed important.

We asked the complainants' leading expert, Mr. Dayton, a number of specific questions to bring out the differences between the Kitselman machine, as described and claimed in his patent, and the defendants' machine, and he was obliged to admit the existence of many important and, as we view them, conclusive differences between the two machines. We will quote the questions and answers bringing out these points of difference so that the court may find them convenient for reference and examination. We begin the quotations on page 71:

> "X. Q. 91. In the machine, described in the claims of the Kitselman patent sued on, the central spindle rotates, while in the defendant's machine the central spindle is stationary. Is not this correct?
>
> "A. As already stated in my former answer to precisely the same question, the spindles shown in the Kitselman patent and, of course, embraced in the claims in suit, rotate along with the pinion portion of the same central section, and in defendants' machine the spindle portions of the central sections do not rotate, and only the gear and cross-head portions of said sections do rotate. . . .
>
> "X. Q. 93. I ask you if the gears or pinions in

the Kitselman machine are not fast with the central spindles, while in the defendants' machine they are loosely mounted on such spindles. Is not this correct?

"A. Now, understanding that by the Kitselman machine is meant the Kitselman machine as illustrated in the drawings of the Kitselman patent in suit and as embodied in the complainants' exhibit Kitselman machine No. 1, which corresponds with the patent, I reply that in such illustration and embodiment of the Kitselman machine the gears or pinions are fast with the central spindles and that in defendants' machine the gears or pinions are loosely mounted on such spindles.

"X. Q. 95. In the Kitselman machine the side sections or spool carrying frames and spools on the respective sides of the central spindles are mounted on a common bar, and are shifted by a hand lever, while in defendants' machine the spool carrying frames and spools on the opposite sides of the central spindles are separate and independent and not mounted on a common member, and are not shifted by a hand lever. Is not this correct?

"A. In defendants' machine the shifting sections of the various twisters are not shifted by a hand lever, but automatically and independently by shifting mechanism. . .

"X. Q. 96. In the Kitselman machine, the side sections on the opposite sides of the central frames are moved or shifted by a sliding movement directly up and down, while in the defendants' machine the spool carrier frames and spools are shifted by a rotary movement. Is not this correct?

"A. In defendant's machine the side sections are shifted to an upper or lower twister in a rotary movement of the twisters, while in the Kitselman machine they are shifted up and down in the absence of rotary movement.

"X. Q. 97. In the Kitselman machine the side sections require and are provided with means for supporting them at each end, and if either end were unsupported by such means, the side sections would drop out, while in defendants' machine the side sec-

tions require and are only provided with means for supporting them at one end. Is not this correct?

"A. It is. . . .

"X. Q. 99. In the Kitselman machine the side sections could be lifted out and re-inserted end for end so as to operate by providing another hole for the woof wire to pass out, while in the defendant's machine the side sections could not be lifted out and re-inserted end for end without practically reconstructing them. Is not this correct?

"A. The side sections of defendant's machine can be lifted out with greater ease than the side sections can be removed in the Kitselman machine. In the Kitselman machine No. 1, the semi-circular end portions of the spool frame, being substantially alike except that one is perforated to deliver the spool wire, while the other is not, this spool frame could be changed end for end and, with a hole made in the now imperforate end, it would deliver the wire in that position. . . .

"X. Q. 100. In the Kitselman machine, as illustrated and described in the patent and as embodied in the full size machine before us, it is necessary that the central spindles or sections shall rotate in order to have an operative machine, while in defendant's machine it is not necessary that the central spindles should rotate. Is not this correct?

"A. In the exact construction shown in the Kitselman patent and embodied in this Kitselman machine No. 1, it is necessary that the spindles shall rotate, and in defendant's machine it is not necessary that the spindles should rotate. . . .

"X. Q. 101. In the Kitselman machine, as illustrated and described in his patent and as embodied in the full size machine before us—Kitselman machine No. 1—we would destroy the operativeness of the machine if we were to make the hollow central spindles stationary instead of rotative, while in the defendant's machine we would not destroy its operativeness by making the hollow spindles rotative instead of stationary. Is not this correct?

"A. By reason of the fact that in the Kitselman machine, wherein the spindle does rotate, and en-

gagement for carrying around the spool frames or side sections is made with the spindles and not with the gears, it is true that in this Kitselman machine, if these spindles were to be made secure against rotation, the machine would not be operative. In defendant's machine, on the other hand, the spindles could be made to rotate with their own gears operatively if only suitable bearings were provided between the spindles and the frames where now these have rigid connections.

"X. Q. 102. If we transferred the side sections or spool carrying frames and spools from the defendant's machine into the Kitselman machine, or transferred the side sections or spool carrying frames and spools from the Kitselman machine into the defendant's machine, would we not have an inoperative machine?

"A. The parts would not fit and the machine would not operate.

"X. Q. 103. If we transferred the central sections, so-called, of the defendant's machine into the Kitselman machine, or the central sections of the Kitselman machine into the defendant's machine, would we not have an inoperative machine?

"A. This is practically the same question as the last, and I reply that the parts would not fit, not being made interchangeable, and the machines would not operate.

"X. Q. 104. If the shifting devices were transferred from the Kitselman machine to the defendant's machine, or the shifting devices of the defendant's machine transferred to the Kitselman machine, would we have an operative machine?

"A. The parts referred to are not interchangeable and we would not have an operative machine."

From the foregoing it is apparent that the Kitselman patented machine and the defendants' machine differ from each other in a number of important and essential features of construction and operation.

In the Kitselman machine the spool carriers are shifted from one section to another by being *slid or moved in a direct* line or *straight* path, while in the defendant's machine this is not the case, as they have to be *rotated* through a *curved* path.

In the Kitselman machine all of the spool-carriers at one side of the spindles are *attached together* and *moved* from one section to another through the instrumentality of a *common bar,* while in the defendants' machine this is not the case, as the spool-carriers are each *separate* from the others and move *independently* of them.

In the Kitselman machine the spindles are *fast* with the pinions and *rotate* with them and necessarily so, while in the defendants' machine this is not the case, as the spindles are fast with the *frame* and have the pinions *loosely* mounted on them and do not rotate with the pinions.

In the Kitselman machine the spool-carriers are shifted from one section to another *by a hand lever* provided for the purpose, while in defendants' machine this is not the case, as they are shifted *without* any lever and simply by *reversing* the direction of rotation of the *crank,* nor *could they be* transferred by sliding bars and hand levers.

In the Kitselman machine the spool carriers are required to be supported at *both ends,* while in the defendants' machine this is not the case, as they are and are only required to be supported at *one end only.*

In the Kitselman machine the spool-carriers could readily *be taken out* and turned end for end and *reinserted* in

place again, while in defendants' machine this is not the case, as they cannot be *reinserted end for end* without first being reconstructed.

In the Kitselman machine the operativeness of the machine would be destroyed if we made the hollow spindles *stationary* instead of rotative, while in the defendants' machine this is not the case, as the spindles *could* be made *rotative* instead of stationary if desired.

In the Kitselman machine the segmental ends of the side sections of the twisters make with the lateral end pieces of the central sections *wheels at both ends* of the twisters which rest in supports which permit of their rotation, while in the defendants' machine this is not the case, as the ends of the central spindles and the spool-carriers *form no wheels* and are received in no journals or bearings.

In the Kitselman machine the spool-carriers could not be transferred except when the parts have been brought to a position *of rest* and the pinions are *stationary*, while in the defendants' machine this is not the case, as the spool-carriers cannot be transferred when the pinions *are at rest* or stationary, but only *when* they are *rotating*.

The spool-carriers of the Kitselman machine and the spool-carriers of the defendants' machine are so different in *construction* and are meant to be mounted and operated *in such radically different ways* that they cannot be interchanged or transferred from one machine to the other without a reorganization of such machine.

In deciding the case at the Circuit Judge Baker attached weight and importance to the above differences and treated them as conclusive of non-infringement, saying, on page 519:

> "The testimony discloses the following differences between the Kitselman machine and that of the defendants. In the former the spool-carriers are shifted from one section to another by sliding them in a straight path, while in the latter they are rotated through a curvilinear path; in the former all the spool-carriers at one side of the spindles are attached together and move from one section to another by means of a common bar, while in the latter the spool-carriers are each separate from, and move independently of, the others; in the former the spindles are fastened to the pinions and rotate with them, while in the latter the spindles are fastened to the frame and have the pinions loosely mounted on them, and they do not rotate with the spindles; in the former the spool-carriers are shifted from one section to another by a hand lever provided for that purpose, while in the latter they are shifted without any lever simply by reversing the direction of the rotation of the crank; in the former the spool-carriers are required to be supported at both ends, while in the latter they are only required to be supported at one end; in the former the spool-carriers can readily be taken out and turned end for end and reinserted in place again, while in the latter this cannot be done; in the former its capacity to operate would be destroyed if the hollow spindles were made stationary, while in the latter they can be made rotative instead of stationary, if desired; in the former the segmental ends of the side sections of the twisters make, with the lateral end pieces of the central sections, wheels at both ends of the twisters, which rest in supports which permit their rotation, while in the latter the ends of the central spindles and the spool-carriers form no wheels and are received in no bearings; in the former the spool-carriers cannot be transferred except when the parts have been brought to a position of rest and the

pinions are stationary, while in the latter the spool-carriers cannot be transferred when the pinions are at rest, but only when they are rotated. The spool-carriers in the former and those in the latter are so different, and are mounted and operated in such radically different ways, that they cannot be interchanged or transferred from one machine to the other without reorganization. The machines are constructed on different theories and are intended to work in different ways. They lack identity of means and of operation essential to constitute infringement."

In view of all these radical and essential differences between the Kitselman machine and the defendants' machine—admitted by the complainants' leading expert and found by Judge Baker—it is evident, as it seems to us, that the two machines are constructed on an entirely different theory and are intended to work in an entirely different way. They lack the identiy of *means*, and the identity of *operation* which, combined with identity of result, must be found to constitute infringement.

The Davisson Patent.

The Davisson patent (Rec. 404) shows and describes a machine for making the old and well-known style of woven-wire fabric commonly designated as diamond-mesh fabric from the fact that its meshes or openings are of diamond shape. This diamond-mesh fabric has been made by machines for more than forty years and is shown in many patents prior to any of the patents in suit, as, for instance, the Nesmith 1854 patent, the Whitehead 1854 British patent, the Sawyer 1878 patent, the Sedgwick 1879 patent, and others.

As to this patent all the judges have concurred in the view that it was not pioneer in its character and was not infringed, if we can take the fact that in the majority opinion of the Circuit Court of Appeals no reversal of Judge Baker's decision was ordered, as indicative of concurrence in his views. In this aspect of the case we feel that it does not require such minute consideration as we have given to the Kitselman patent.

The particular claims of the Davisson patent relied on as infringed are the second and third, which read as follows:

> "2. In a machine for making wire fabric, a series of spindles arranged in a line and mounted in bearings on a suitable supporting frame, and having on each spindle a cross-head carrying reels for wire on opposite sides of the axis of said spindle, substantially as specified.
>
> "3. In a machine for making wire fabric, two or more hollow spindles adapted to admit the passage through their axis of wires forming the edges of the fabric, and having on each spindle a cross-head carrying reels for wire on opposite sides of the axis of said spindle, substantially as specified."

By turning to the Davisson patent, page 404, and looking at Figs. 1 and 3 of the drawings we can probably obtain the best idea of the particular features in controversy. In looking at these figures we view them the same as if we were standing in front of a Davisson machine set up and in operation. The "series of spindles arranged in a line" mentioned in the second claim and the "two or more hollow spindles" mentioned in the third claim are the spindles "A" that we see before us. The "bearings" in which the spindles are mounted mentioned in the second claim are the parts "B" arranged to slide up and down in

ways and carry the spindles up and down in their movements. The "cross-heads" arranged on each spindle, mentioned in the second and third claims, are the transverse bars or pieces *"f"* that we see at the top of the spindles. The "reels" for carrying the wire, mentioned in the second and third claims, are the cylindrical boxes "G" shown on the cross-heads which are in their up position. One of these reels is also shown detached in Fig. 8. The above enumerates and identifies the parts of the machine called for in the claims—the spindles, the sliding bearings, the cross-heads, the reels. Still looking at Fig. 1, we see the woven-wire fabric being carried up and wound around a large drum, "U," which is well shown in Fig. 12, where we stand at the side of the machine and see the end of the drum.

In operation, longitudinal *marginal* wires, stored on the reels P P which we see in Fig. 1 near the bottom of the machine pass up through the two *outside* hollow spindles and on up around the drum. The wire employed in twisting the *meshes* is stored in the four spools G which we see performing their work above the gear wheels which rotate the spindles with their cross-heads beneath the storage-drum. One set of the spindles is up and the other down in Fig. 1. As we look at the machine we see that the two outside spindles and the central spindle are up, and that the two intermediate spindles with their cross-heads are down. Presently, however, when the operation of the machine requires it, the two intermediate spindles which are down in Fig. 1 will move up until their cross-heads are on a line with the cross-heads of the other spindles. The spools will then be automatically slid over by shippers or shifters on to the cross-heads which have just moved up into position, and the other three spindles with their cross-

heads will be moved down out of the way. After the two intermediate spindles have performed their work the two outside spindles and the central spindle will again move up so that the spools can be automatically slid over on to them again. As we look at the machine in Fig. 3 we see that this particular moment has arrived and the spools are just ready to be slid by the shippers or shifters off the cross-heads of the intermediate spindles back on to the others, where they will be in the position in which we see them in Fig. 1. In this way and with the *inactive* spindles down and the *active* spindles up, but constantly changing places up and down, the operation continues. The spindles *must* be moved *up* so that their cross-heads come into *line* before a transference of the spools can be effected by the shippers or shifters, and then the emptied spindles must be instantly moved *down* and out of the way again. In a word, the two sets of spindles are made to ***alternately*** advance and retreat, to work and to be idle.

Mr. Wiles, defendants' expert, explains the construction and operation of the mechanism involved in the second and third claims of the Davisson patent, beginning on page 135, if the court cares to consider it more minutely.

From a study of the Davisson patent to this point we are able to understand and define its essential characteristics of construction and operation. The spindles *may* be solid or hollow except "two or more" which are required to be hollow in the second claim; "two" for the marginal wires, and "more" when one of the marginal wires is to be drawn in to make the "narrower fabric" mentioned. The spindles must be rotary, as otherwise they could not work. The spindles must be ***endwise movable***, as otherwise they could not be advanced into and retracted out of

their working positions. The spindles must be provided with *cross-heads* in the form of bars extending out at *right angles* to the length of the spindles, as otherwise there could be no sliding of the spools from one spindle to another. The spindles must be provided with *central* holes, as shown in Fig. 9, as otherwise they could not be slid on to and off of the cross-head bars. The spindles must be mounted in *sliding* bearings, as otherwise they could not be advanced and retracted as required in operation. The spools must be movable away from one spindle toward another in a *straight* line, as otherwise there could be no transference of the spools from one cross-head to another. There must be *shippers* or shifters to bodily *shove* the spools off one cross-head bar on to another, as otherwise there would be no transference of the spools and they would constantly be on the same cross-heads, which would defeat the operation. The spindles must *carry* the spools and impart to them their *rotary* movement, as otherwise there would be nothing to carry them around to effect the twisting of the wires. All of these features of construction and characteristics of operation are essential to the Davisson machine of the second and third claims. To change them in any material respect would be to depart from the law of the machine and to violate the thought or idea which induced their creation and gave them their form, operation, characteristics and efficiency.

Infringement of the Davisson Patent.

The defendants' expert, Mr. Wiles, pointed out the differences in construction and operation between the defendants' machine and that of the Davisson patent, beginning at page 142, to which we beg to refer if thought important.

On cross-examination, Mr. Dayton, the complainants' leading expert, was asked in detail as to the *differences* between the Davisson patented machine and the defendants' machine, and as these differences are so radical and striking and as they are admitted to exist by the complainant's leading expert, we will quote them for the convenience of the court. Beginning on page 62, Mr. Dayton was asked:

> "X. Q. 48. The hollow spindles in the Davisson machine rotate, while the hollow spindles in the defendant's machine are stationary. Is not this correct?
>
> "A. It is.
>
> "X. Q. 49. The hollow spindles in the Davisson machine are advanced to receive the spools carrying the woof wire and recede when the spools have been transferred, while in the defendant's machine the hollow spindles have no movement in the direction of their length, but remain stationary. Is not this correct?
>
> "A. It is. . . .
>
> "X. Q. 51. I ask you if the hollow spindles in the Davisson machine are not provided with cross-heads at their outer or free ends, and if the outer or free ends of the hollow spindles in the defendant's machine are not unprovided with cross-heads. Is not this correct?
>
> "A. That is correct.
>
> "X. Q. 52. The cross-heads on the outer ends of the hollow spindles in the Davisson machine have fixed connection with such spindles so that they and the spools carried thereon are rotated by the rotation of the spindles. Is not this correct?
>
> "A. That is true.
>
> "X. Q. 54. I ask you if in the defendant's machine there are any cross-heads for carrying the spools which are mounted upon the spindles and fixed thereto?
>
> "A. In defendant's machine there are cross-heads which are mounted upon the spindles, but which are not fixed or rigidly attached to the spindles.

"X. Q. 55. In the Davisson machine the cross-heads can have no rotary movement without the rotation of the spindles, while in the defendant's machine this is not the case. Is not this correct?

"A. In the Davisson machine, if it have the precise construction shown in the Davisson patent, the cross-heads cannot revolve except by rotation of the hollow spindles, and in the defendant's machine this is not the case.

"X. Q. 56. In the Davisson machine the rotation of the spools carrying the woof wire depends upon the rotation of the hollow spindles, while in defendant's machine this is not the case. Is not this correct?

"A. The statement of the question is correct.

"X. Q. 57. In the Davisson machine all of the spools are transferred from one set of cross-heads to another by one integral device, frame or shipping mechanism, while in defendant's machine this is not the case. Is not this correct?

"A. The question correctly states the fact as to the illustration of Davisson's machine given in the patent and also the fact as to defendant's machine. . . .

"X. Q. 59. In the Davisson machine the spools are transferred from one cross-head to another while the power operating the machine is constantly applied in the same direction, while in the defendant's machine it is necessary to reverse the power in order to secure the transfer of the spools. Is not this correct?

"A. The belt pulley through which power is applied to the Davisson machine always turns in the same direction, though the cross-heads on the spindles reverse their direction of rotation at the time the spool carriers are shifted from one cross head to another. In defendant's machine the peculiar construction of the devices for engaging and disengaging the spool carriers with the cross-heads makes it necessary, and it is necessary, to reverse their direction of motion, and without intervening mechanism between the hand crank and the cross heads, it is also necessary in defendant's machine to reverse the

direction of the crank, in order to transfer the spool carriers."

A simple affirmative answer would have conceded no more than the above and would have manifested far more candor on the part of the witness.

"X. Q. 60. In the Davisson machine the cross heads are square bars or pieces extending out from the hollow spindles while in defendant's machine the parts which you have denominated cross heads are not square bars or pieces; is not this correct?

"A. It is. In one case, to-wit, the Davisson, the square portion of cross head enters the spool carrier and in the defendant's machine a portion of the spool carrier enters the cross head. The cross heads differ in form in the two machines with reference to these two different mechanical modes of connecting with the spool carriers. . . .

"X. Q. 62. In the Davisson machine the spools are transferred from one cross head to another by shifting the positions of the cross heads until they come into line end to end, so that the spool carrier and spool are moved sidewise in the direction of their axes, while in the defendant's machine the so-called cross heads constantly remain in the same plane and the spool carriers and spools, when shifted, are not shifted by moving the carriers in the direction of their axes. Is not this correct?

"A. This is true, the spools and their carriers in the Davisson have coincident axes (the spool being mounted in a cylindric case in the center of which is the hole for the cross head), and the spool carrier of defendant's machine having the spool mounted with its axis transverse to what may be called the longitudinal axis of said carrier. . . .

"X. Q. 64. My question was intended to ask whether the Davisson form of cross head could be used in the defendant's machine with the defendant's spool carriers and spools, and the defendant's form of cross heads in the Davisson machine with the Davisson spool carriers and spools. In short, I desire to know whether the cross heads could be trans-

ferred from one machine to the other and used with the other mechanisms contained in such machines, respectivcly, and whether, after such transfer, we would have operative combinations.

"A. The transfers referred to cannot be made without suitable changes for adapting the parts to each other and, of course, no operative machine can be made of either by attempting such transfer without such changes. With suitable changes the transfers referred to can be made, and operative machines result. . . .

"X. Q. 68. In your answer you have spoken of two kinds of bearings, as I understand you, the rotating and the sliding. Which kind of bearings is that referred to in the second claim of the Davisson patent?

"A. The term bearings in the second claim of the patent embraces both, and any other suitable bearing on a supporting frame.

"X. Q. 69. In the defendant's machine the bearings for the spindles are neither rotating or sliding, are they?

"A. The spindles neither rotate nor slide in their bearings in the defendant's machine, but are fixed therein."

After all the admissions above of differences in the construction and operation of the Davisson patented machine and the defendants' machine, we thought we would take the Davisson machine as a starting point and enumerate consecutively and in order the changes that would have to be made, or at least some of them, in order to convert the Davisson machine into the defendants' machine—to make the defendants' machine out of the Davisson machine—and so we asked Mr. Dayton:

"X. Q. 65. If we took the defendant's machine as a starting point and reorganized it so that the spindles would rotate—so that some of them would be advanced to operative positions while others were retracted—so that each spindle was provided with

the bar form of cross head—so that the spool carriers and spools had coincident axes and moved in the direction of their axes while being transferred from one spindle to another—so that the power applied to the machine continually operated in the same direction—and so that we would no longer have the rounded form of cross heads, so-called—nor stationary spindles—nor spool carriers and spools with their axes at right angles to each other—nor spool carriers which were transferred by moving them in a reverse direction—nor power which had to be reversed before a transfer of spool carriers and spools could be effected—to say nothing of other changes that would be necessary—there would practically be no part in the machine which it had not been necessary to change in some way in converting defendant's form of machine into the Davisson machine, would there?

"A. There would be a great change in originating the Davisson machine from the defendant's machine as a starting point, as there was a great change in originating the Kitselman machine from the Davisson machine as a starting point. If, however, counsel mean to be understood or to indicate that all the changes enumerated by him to be necessary for the transfer of the cross heads and spools, referred to in the last few preceding questions and answers, he is in error."

The above answer, although evasive, admits that great changes would be required to convert the defendants' form of machine into the Davisson form of machine, or *vice versa.*

If we take the admissions of Mr. Dayton as to the differences between the Davisson patented machine and the defendants' machine as giving us a correct summary of such differences, they will be many and striking.

In the Davisson machine the hollow spindles *rotate,*

while in the defendants' machine this is not the case, as they are *stationary*.

In the Davisson machine the hollow spindles are alternately *advanced and retracted*, while in the defendants' machine this is not the case, as they always *remain* in *a fixed* position.

In the Davisson machine the hollow spindles *must* be advanced and retracted to effect the transfer of the spools, while in the defendants' machine this is not the case, as they *need* not and *cannot* be advanced or retracted.

In the Davisson machine the hollow spindles are provided with cross-heads at their ends *farthest* from the supporting frame, while in the defendants' machine this is not the case, as the cross-heads, so called, are fixed to the gears *near* the supporting frame.

In the Davisson machine the cross-heads have a *fixed and rigid connection* with the spindles, while in the defendants' machine this is not the case, as the cross-heads, so called, have no fixed or rigid connection but are *loosely mounted* on the spindles.

In the Davisson machine the rotation of the spools *depends* upon the *rotation* of the spindles, while in the defendants' machine this is not the case, as there is no rotation of the spindles.

In the Davisson machine the spools are transferred by *direct lateral movement* in the line of the length of the cross-heads, while in the defendants' machine this is not

the case, as they are transferred by *rotating* through a *curved* path.

In the Davisson machine the transference of all the spools is effected by a *single integral device* or shifting frame, while in the defendants' machine this is not the case, as each spool-carrying frame is transferred *by itself* and as a separate entity.

In the Davisson machine the transference of the spools is effected while the power is *continually* applied in the *same direction,* while in the defendants' machine this is not the case, as the power must be *stopped* and *reversed* before transference can be effected.

In the Davisson machine the cross-heads are *square bars* or pieces, while in the defendants' machine this is not the case, as the cross-heads, so called, are *disks* fastened to the gears.

In the Davisson machine the cross-heads are brought into a line end to end and the spools merely moved or *slid sidewise* in the *direction* of their *axes,* while in the defendants' machine this is not the case, as the cross-heads, so called, constantly remain *in the same plane* and the spool-carriers are *not* shifted by moving them in the *direction* of their axes.

In the Davisson machine the bearings for the spindles must be *sliding* and *movable endwise,* while in the defendants' machine this is not the case, as they are *stationary* and cannot be moved endwise.

The cross-heads of the Davisson machine and the cross-

heads, so called, of the defendants' machine are *not interchangeable* or transferable from one machine to the other without a *complete reorganization* of the two machines, which would destroy their identity as machines.

Judge Baker in his study of the case reached the conclusion that these differences were important and decisive of the question of infringement. On page 518 he says:

> "Turning to the patents in detail, many differences are found between the Davisson machine and that of the defendants, and these differences are not mere colorable invasions. In the former the hollow spindles rotate, while in the latter they are stationary; in the former the hollow spindles are alternately advanced and retracted, while in the latter they always remain in a fixed position; in the former the spindles must be advanced and retracted to effect a transfer of the spools, while in the latter no such movement occurs; in the former the spindles are provided with cross-heads at their further ends from the supporting frame, while in the latter the so-called cross-heads are fixed to the gears near the supporting frame; in the former the cross-heads have a fixed and rigid connection with the spindle, while in the latter the so-called cross-heads are loosely mounted on the spindles; in the former the rotation of the spools depends upon the rotation of the spindles, while in the latter there is no rotation of the spindles; in the former the spools are transferred by direct lateral movement in the line of the length of the cross-heads, while in the latter they are transferred by rotating through a curved path; in the former the transfer of all the spools is effected by a single integral device or shifting frame, while in the latter each spool carrying frame is transferred by itself; in the former the transfer of the spools is effected while the power is constantly applied in the same direction, while in the latter the power must be stopped and reversed

before the transfer can be effected; in the former the cross-heads are brought into a line end to end, and the spools are moved endwise in the direction of their axes, while in the latter the so-called cross-heads constantly remain in the same plane and the spool carriers are not shifted by moving them in the direction of their axes; in the former the bearings for the spindles must be movable endwise, while in the latter they are stationary. The cross-heads on the former, and the so-called cross-heads of the latter are not interchangeable or transferable from one machine to the other without such a reorganization as would destroy their identity. These differences show that the identity of means and of operation necessary to infringement are wanting."

In view of the above differences—conceded by the complainants' leading expert and found by Judge Baker—we submit and insist that there is an entire absence of *two* of the indispensable requisites of infringement according to the doctrine which the Supreme Court have repeatedly enunciated, namely, that the two machines must contain substantially the same *mechanism*, operate in substantially the *same way*, and produce substantially the same results—identity of means, identity of operation, identity of result. Identity of *means* and identity of *operation* necessary to infringement are wholly lacking.

The Connor Patent.

The Connor patent (Rec. 398) describes a machine of the stationary or loom type for manufacturing a diamond-mesh woven-wire fabric. It is adapted to make a fabric of different widths and provide it with longitudinal marginal wires and intermediate tension or warp wires if desired. The machine is intended to be run with a constant direction of rotation—that is, the power is to be

constantly applied in the same direction, instead of first in one direction and then in the other. Automatic means are employed for effecting at regular intervals the shifting of the spool-carriers or spool-carrying frames from one spindle to the next adjacent one. In more detailed description, the machine is provided with a series of hollow spindles, to which rotation is imparted by a series of intermeshing gears made fast on the spindles. Each of these spindles carries notched plates or disks near *each* of its ends in which the spool-carrying frames or spool-carriers are intended to be mounted and supported. By referring to Fig. 5 of the drawings, the court will see one of the hollow spindles with its gear wheel and with its notched disks attached, so that its construction is plainly illustrated. The spindles are held in proper journals to support them and permit them to be rotated. Within the frame of the machine are arranged two boards, as they may be termed, with a series of holes cut in them somewhat larger than the peripheries of the notched plates. These holes are cut into each other so that they form a continuous opening, just as though we bored a number of two-inch auger holes along a line close enough together to cause the auger in cutting a new hole to cut also into the one just finished. By looking at Fig. 1 of the drawings we will see this board with five of these holes cut into it, and each one cutting, as already said, into the next. Each one of these holes, as already said, is intended to be somewhat larger than the notched plate or disk which is intended to rotate in the hole. In fact, there is intended to be just a good sufficiency of room beween the bottoms of the notches and the periphery of the holes to permit the ends of the spool-carrying frames to be inserted. The spool-carrying frames are intended to be provided with anti-friction rolls at their ends, which

rest in the notches of the notched plates on the hollow spindles, so that as the spindles with their notched plates are rotated the spool-carrying frames are carried around with them and are prevented from being thrown off at a tangent by the periphery of the holes in the boards, as already explained.

In describing the construction and operation of the machine of the Connor patent, Mr. Wiles, the defendants' expert, beginning on page 158, explains its characteristics and peculiarities at length, and we refer the court to this testimony if it be desired to pursue the matter more fully and minutely.

The claims of the Connor patent relied on as infringed in this case are the second and third. They read as follows:

> "2. The combination, with a train of intermeshing gears arranged in line, each gear having a hollow shaft, of notched spool carrier disks mounted on said hollow shafts, bobbin frames mounted in said notched disks, and automatic switches by which the bobbin frames are simultaneously withdrawn from the notches of those disks having similar rotation and lodged in the notches of the adjacent oppositely revolving disks, substantially as described.
>
> "3. The combination with a train of intermeshing gears of equal diameter, mounted on prolonged hollow shafts arranged in line, of a corresponding series of spool carriers mounted on said hollow shafts and having notched disks, bobbin frames having journals lying in the notches of said disks, and switches by which the bobbin frames are each withdrawn from the notches in one pair of disks and lodged in the notches of the adjacent revolving pair of disks, substantially as described."

The scheme of the Connor machine requires that there shall be hollow spindles to which rotation is imparted; that the hollow spindles shall have notched disks or plates —star wheels—at each end of their ends; that there shall be boards provided with holes cutting into each other in which holes the disks or star wheels on the spindles are inserted and in which they rotate; that there shall be spool-carrier frames with their journals arranged in the notches of the disks in which notches they are kept by the peripheries of the holes in the boards, and that there shall be automatic means for transferring the spool-carrier frames from the notches of one spindle into the notches of another at regular intervals without reversing the direction of rotation of the power by which the machine is operated.

In his specification Connor thus describes the general object of his inventions or improvements. He says:

> "My invention relates to mechanism for producing netted wire fabric; and the purpose thereof is to provide an apparatus having *continuous* positive movement in which the marginal wires may be introduced at different points to form netting of varying width, and in which the wires forming the netting pass from the spools in parallel lines, and are intersected by the travel of the spool carriers, thereby forming the successive reticulations without the employment of other mechanism than the traveling spool carriers."

When we come to compare the invention of the Connor claims with the prior art we find that there was very little room left in which Connor could exercise the inventive faculties. Practically the same method of shifting spool-carriers had been employed before. This is well

illustrated in the Winsor patent of October 7, 1884, which will be found at page 454. This was a machine for making weavers' harness, but was also one in which spools of twine were carried around central spindles and transferred at regular intervals from one spindle to another. Different nomenclature is used in designating the different parts, but the parts are there under whatever name they may be termed. By looking at Figs. 1 and 6 of the drawings of the Winsor patent we will be looking at the side of the machine. We will see there a series of intermeshing gears to rotate the spindles or studs as they are called in the Winsor patent. We will see that the frame or case of the machine is provided with five circular openings cutting into each other, so as to form an opening from one end to the other like so many two-inch auger holes bored so closely together as to cut into each other. On each spindle is a plate or disk provided with projecting teeth instead of provided with notches, as in the Connor machine, while the spool-carrier frames are provided with corresponding notches to receive them. In a word, the disks of the Winsor patent have *projections* and the spool-carriers have *notches* by which they are engaged with and carried around by the projecting teeth. The periphery of the holes prevents them from flying off at a tangent and the operation is in all respects just the same as it is in the Connor machine. Automatic switch mechanism similar to that of the Connor patent is employed to disengage the spool-carrying frames at intervals from the disk of one spindle and transfer it to the disk of the adjacent spindle. In this way the spools are transferred back and forth just as they are in the Connor patent.

Mr. Wiles, beginning on page 160, considers the Win-

sor patent in detail and compares it with the Connor and brings out the striking similarities between the two, and we refer to this testimony for a full discussion of the points of similarity between the Connor and the Winsor patents.

From the above considerations it will be apparent that the claims of the Connor patent must be limited to the exact and specific construction illustrated and described by Connor and that they cannot be given a broad and comprehensive construction. The *only* kind of a machine that Connor invented was one in which there must be found, in combination, *guide-plates* or boards provided with a number of *holes intersecting each other,* hollow spindles provided with intermeshing gears, *two notched disks* or star wheels on *each* of the spindles encircled by the several openings, spool-carrying frames with their journals lying *in the notches* of the disks or star wheels and *prevented* from flying out of the same at a tangent when rotated *by the periphery* of the encircling holes, and *automatic switches* for transferring the spindles of the spool-carrying frames from the notches of one set of disks into the notches of the adjacent disk *without reversing* the direction of motion of the crank or power shaft. This is the Connor combination, and to attempt to give him anything more is to depart from the field of his invention and encroach upon the rights of other inventors and of the public.

Infringement of the Connor Patent.

The question of infringement of the Connor patent was fully considered by Mr. Wiles, the defendants' expert, but we will simply refer to his testimony beginning on page 162, without quoting it at length.

We asked a number of questions of Mr. Dayton, the complainants' leading expert, in order to bring out in clear and succinct form the differences that exist between the Connor patented machine and the defendants' machine, and we think we cannot do better than to quote some of these questions and answers, beginning on page 76:

> "X. Q. 114. In the Connor machine the hollow spindles rotate, while in the defendant's machine they are stationary. Is not this correct?
>
> "A. It is.
>
> "X. Q. 115. In the Connor machine the travelling spool carriers, as they are termed in the specification, or the bobbin frames, as they are termed in the claims, are supported and are required to be supported at both ends, while in the defendant's machine the spool carrying frames are only supported and required to be supported at one end. Is not this correct?
>
> "A. Not exactly, as to defendant's machine.
>
> . . .
>
> "X. Q. 116. In the Connor machine, the travelling spool carriers or bobbin frames can only be transferred from one spindle to another by rotating the parts in one direction, while in the defendant's machine they can only be transferred from one spindle to another by reversing the direction of rotation. Is not this correct?
>
> "A. In the particular arrangement and construction of the switch devices shown in the Connor patent, wherein they are contrived suitable to go with

twisters which rotate continually in the same direction, it is necessary that such rotation in this direction (or, rather, in these directions, for alternate twisters rotate in opposite directions), shall be pursued to effect the switching. In defendant's machine, on the other hand, the switching devices are contrived to require a reversal in the direction of rotation of the switchers to effect the switching.

"X. Q. 117. In the Connor machine the travelling spool carriers or bobbin frames in the act of changing or being transferred from one spindle to another first pass to the opposite side of the spindle while in the defendant's machine the spool carrying frames are required to transfer or pass from one spindle to another on the same side. Is not this correct?

"A. Yes, this being an incident of the reversal of motion referred to in the last question and answer.

. . .

"X. Q. 118. In the Connor machine is it possible to transfer a spool carrier or bobbin frame, and cause it to travel on the same side of the spindle immediately and without first passing to the opposite side of the spindle, and in the defendant's machine is it possible to transfer a spool carrier and cause it immediately to pass to the opposite side of the spindle without first travelling on the same side?

"A. It is not, without some changes in the switching devices, these being contrived so as to give and require the difference in making the figure 8 by the spool carrier that I have pointed out in my last answer.

"X. Q. 119. In the Connor machine there are pivoted switches, which, at stated intervals, turn on their pivots into new positions and thus change the path of travel of the spool carriers or bobbin frames, while in the defendant's machine there are no pivoted switches which at stated intervals and by the constant rotation in the same direction of the machine will change their positions or turn on their pivots to transfer the spool carriers. Is not this correct?"

To this question the witness gave a long and, as it seemed to us, evasive and ambiguous answer, but the

general purport of it appeared to be the same as if he had briefly answered the question in the affirmative, and so we asked him:

"X-Q. 120. Do you answer my question 119 generally in the affirmative or in the negative?

"A. A categorical answer to the many conditioned question No. 119 would be in the affirmative. . . .

"X-Q. 122. In the Connor machine the switches are mounted on bars running along the top and the bottom of the frame, or parallel with the line of the twisters, while in defendant's machine the parts which you denominate switches are not mounted on bars running lengthwise of the twisters but are mounted in the parts which you have treated as the inner notched disks of the claim sued on? Is not this correct?

"A. Not strictly. In the Connor machine the switches are pivoted on the frame adjacent to the notched disks and twisters and are only operated by connection with the bars referred to. The switches in defendant's machine are mounted as stated in the question. . . .

"X-Q. 125. In the Connor machine, and in accordance with its scheme of construction and operation, the spool carrier never comes into such relation with two adjacent spindles that it may be operably rotated around either at the will of the operator, while in the defendant's machine the spool carriers do come into such relations. Is not this correct?

"A. Understanding this question to refer exclusively to the condition imposed by the switch in the precise construction shown in the Connor patent whereby they are made to operate at stated intervals independently of the will of the operator, while the defendant's machine being a hand machine, is altogether subject to the operator's will, this is correct.

"X-Q. 126. In the Connor machine the travelling spool carriers or bobbin frames are transferred from the notches of one pair of disks into the notches of an oppositely rotating pair of disks, and this is always the case, while in defendant's machine the spool

carrying frames are always transferred into disks rotating in the same direction. Is not this correct?

"A. From one standpoint it is, and from another it is not . . .

"X-Q. 127. In the Connor machine the spool carrying frames are alternately on disks which constantly run in opposite directions, while in the defendant's machine the spool carrying frames are constantly on disks which run in the same direction. Is not this correct?

"A. That is true as follows from the reversal of the hand crank in defendant's machine explained in my last answer.

"X-Q. 128. In the Connor machine the automatic switches are never rotated or carried around by the rotating disks, while in the defendant's machine they are constantly carried around by the rotating disk. Is not this correct?

"A. It is."

From the above it is apparent that there are many differences in construction and operation when we come to compare the Connor patented machine and the defendants' machine. These differences are so essential and vital that nothing short of invention can pass from one form to the other. We will enumerate and summarize these differences as they have been brought out by the study of the expert witnesses and in the questions and answers from which we have quoted.

The driving mechanism of the Connor machine is *constantly* applied in *one direction,* while in the defendants' machine this is not the case, as the driving mechanism is *reversed* at intervals *at the will* of the operator, and *must be* so reversed to secure the desired results.

In the Connor machine the hollow spindles *rotate* and

must rotate to do their work, while in the defendants' machine this is not the case, as they are *stationary* and *non*-rotative.

In the Connor machine the spools or bobbin-carriers are required to be ***supported at both ends,*** while in the defendant's machine this is not the case, as they are required to be supported at ***one end only***.

In the Connor machine the spool or bobbin-carriers are carried around ***by the notches in the disks*** mounted on the rotating spindles, while in the defendants' machine this is not the case, as they are carried entirely by *other* means.

In the Connor machine the notched disks in which the journals of the spool or bobbin-carriers rest are ***surrounded*** and are ***required to be*** surrounded by the *walls* of the ***openings*** in which they are placed to prevent the spool or bobbin-carriers from flying off at a tangent while being carried around, while in the defendants' machine this is not the case, as they are ***not*** surrounded and are not ***required to be*** surrounded by any ***retaining*** wall to preserve them in place.

In the Connor machine the spool or bobbin-carriers can only be transferred by ***rotating*** the parts in one *constant* direction, while in the defendants' machine this is not the case, as they would ***never*** be transferred by rotating the parts in ***one constant*** direction, and can only be transferred by ***reversing*** the direction of rotation.

In the Connor machine the travelling spool or bobbin-carriers in the act of being transferred from one spindle

to another first *pass to the opposite* side of the spindle, while in the defendants' machine this is not the case, as the spool-carriers transfer or pass from one spindle to another *on the same side,* and without crossing over.

In the Connor machine it is not possible to transfer a spool-carrier and cause it to travel *on the same side* of the spindle *immediately* and *directly,* and without *first* passing to the *opposite* side, while in the defendants' machine it is not possible to transfer a spool-carrier, and to cause it to immediately and directly *pass* to the *opposite* side of the spindle without *first* travelling on the *same* side on which it was travelling *before* transference.

In the Connor machine there are pivoted *switches,* which at *stated intervals* turn on their pivots into new positions, and thus *automatically* change the path of travel of the spool-carriers, while in the defendants' machine this is not the case, as there are *no pivoted switches* which at *stated* intervals, or at any other time, and by *constant* rotation in *one* direction, will *automatically* change their position to effect the transfer.

In the Connor machine the switches are turned from one position into another *by bars running parallel* to the line of the twisters, and operating *simultaneously* on all of the switches, while in the defendants' machine this is not the case, as the parts called switches by the complainant's experts *are not operated by any bars* at all, or by any *single common* means which *simultaneously* acts upon all of them.

In the Connor machine the travelling spools or bobbin-

carriers never come into position between the two spindles where they can be transferred *at will* from one to the other, while in the defendants' machine they do come into such position, so that they can be transferred *at will*, and they *cannot be* transferred until they do come into such position.

In the Connor machine the travelling spool or bobbin-carriers are always transferred from the notches of one pair of disks into the notches of an *oppositely rotating* pair of disks, while in the defendants' machine this is not the case, as they are always transferred into disks rotating *in the same direction.*

In the Connor machine the disks which carry the spool-carriers are always running *constantly* in *opposite* directions, while in the defendants' machine this is not the case, as they run *alternately* in opposite directions—first in one direction and then in the other.

In the Connor machine the automatic switches are not *rotated* or *carried around* by the rotating disks, and have no connection with them, while in the defendants' machine this is not the case, as the parts called the switches by the complainants' experts are *attached to* the disks, and are *constantly carried around* with them.

Judge Baker, in deciding the case in the Circuit Court, considered that the above differences were established by the evidence and by a comparison of the machines with each other and that they settled the question of infringement against the complainant, saying on page 519:

"The testimony in regard to the Connor patent

shows that there are many differences in the construction and operation of a machine constructed under that patent and the machine constructed by the defendants. The driving mechanism of the former is constantly applied in one direction, while in the latter it is reversed at intervals at the will of the operator, and must be so reversed to secure the desired result; in the former the hollow spindles rotate to do their work, while in the latter they are stationary; in the former the spools are required to be supported at both ends, while in the latter they are spported at one end only; in the former the spool-carriers are carried around by notches in the disks mounted on the rotating spindles, while in the latter they are carried entirely by other means; in the former notched disks in which the spool-carriers rest are required to be surrounded by the walls of the openings in which they are placed, to prevent them from flying at a tangent while being carried around, while in the latter they are not surrounded, nor required to be surrounded by any retaining wall to keep them in place; in the former the spool-carriers can only be transferred by rotating the parts constantly in one direction, while in the latter they can only be transferred by reversing the direction of rotation; in the former the spool-carriers in the act of transference from one spindle to another first pass and must pass to the opposite side of the spindle, while in the latter they pass and must pass from the one spindle to another on the same side; in the former there are pivoted switches which, at stated intervals, turn on their pivots into new positions and thus automatically change the path of travel of the spool-carriers, while in the latter there are no pivoted switches for such purpose; in the former the switches are turned from one position to another by bars parallel to the line of the twisters and operating simultaneously on all the switches, while in the latter the parts called switches are not operated by bars, or by any single common means acting simultaneously upon all of them; in the former the spool-carriers never come into position between the two

> spindles where they can be transferred at will from one to the other, while in the latter they do come into such position and can be transferred at will, and they are incapable of transfer until they do come into such position; in the former the spool-carriers are always transferred from the notches of one pair of disks into the notches of an oppositely rotating pair of disks, while in the latter they are transferred into disks rotating in the same direction; in the former the disks which carry the spool-carriers constantly run in opposite directions, while in the latter they run alternately in opposite directions; in the former the automatic switches are not carried around by the rotating disks and have no connection with them, while in the latter the parts called switches by complainant's experts are attached to the disks and are constantly carried around with them. These differences in construction and operation make it apparent that the defendants' machine does not contain substantially the same mechanism and operate substantially in the same way as the Connor machine. In my opinion there is lacking identity of means and of operation which is essential to infringement."

In view of the radical and essential differences in construction and operation that we are able to find, when we compare the Connor machine and the defendants' machine, part by part and function by function—which differences are admitted by the complainant's leading expert and found by Judge Baker—it seems to us impossible to say that the defendants' machine contains substantially the same mechanism, operates in substantially the same way, and produces substantially the same result as the Connor machine. There is certainly lacking identity of means and identity of operation—two of the requisites to infringement.

The Pope Patent.

The Pope patent (Rec., 409) is for a portable or field machine. It is formed of a vertical upright piece or frame mounted on wheels so that it can be moved along as required in doing work. It has a series of hollow stationary tubes at proper intervals rigidly fastened to and protruding from the vertical frame. These tubes are intended to have the lingitudinal marginal and warp wires passed through them. A series of intermeshing gears are loosely mounted on the stationary tubes or spindles adjacent to the vertical frame so that as rotation is imparted to one of them all will be rotated. Up to this point we see nothing special or peculiar in the construction of the Pope machine. Here, however, we see a departure from the ordinary construction. The rotating gears are provided with two T-shaped grooves running parallel through their faces. Each of them has this peculiarity of construction. We next observe that the spool-carrying frames are divided or made into halves, each carrying at its inner end a half wheel, as it were, something like the inner ends of the side sections of the Kitselman three-part twisters. Each of these half wheels or segments on the spool-carrying frames is provided with a longitudinally projecting T-shaped piece on its rear face adapted to fit into one of the T-shaped grooves in the front face of the gears. When the gears are standing with their T-shaped grooves in a vertical position the spool-carrying frames can be slid from the gear of one groove up or down into the groove of the next adjacent gear. This registration or alignment of the grooves in the series of gears occurs twice in each revolution of the gears. Sliding bars are arranged on the face of the ver-

tical frame so that they can be slid up and down by the movement of a lever; one sliding up as the other slides down, and doing this alternately with each movement of the lever. These sliding bars encircle and embrace the half wheels on the spool-carrying frames so that as the lever is operated and the bars moved—one up and the other down—they will slide the spool-carrier frames with them, one set up and the other set down. This causes the crossing of the wires so that the fence fabric can be woven into diamond mesh. The peculiarity of the Pope machine, therefore, will be found to reside in this *arrangement of T-shaped grooves* in the outer faces of the intermeshing gears and *the T-shaped longitudinal projections* on the rear faces of the spool-carrier frames which are received into the T-shaped grooves so that a *direct sliding* movement may be effected from one gear to another, back and forth, in the operation of weaving the wire fabric.

The claims of the Pope patent relied on are the first, ninth and tenth. They read as follows:

> "1. In a wire fabric machine, the upright frame piece having a series of regularly spaced openings, stationary elongated warp wire tubes fitted at one end in said openings, a vertically aligned series of intergeared twister wheels loosely journaled on said stationary tubes and having parallel face grooves, shiftable spool carriers having tongues registering with the grooves in said wheels, and shifting devices for sliding the spool carriers from one wheel to the other, substantially as set forth.
>
> "9. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes secured to said frame and aligning with the openings therein, a series of aligned twister wheels loosely journaled on said stationary tubes, and shiftable spool carriers mounted to slide on said wheels, substantially as set forth.

"10. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes fitted at one end in said openings, and a series of aligned twister wheels loosely journaled on said stationary tubes, and shiftable spool carriers having a sliding tongue and groove connection with the twister wheels, substantially as set forth."

Mr. Wiles, the defendants' expert, beginning on page 165, considers and discusses the Pope patent at length, and we refer to his testimony if it be desired to pursue the matter more in detail.

But aside from the considerations, which necessarily limit the claims of the Pope patent sued on to the specified details of construction illustrated and described, it appears from the file-wrapper and contents on pages 374-377 that Pope attempted to procure claims broader than the ones which were finally allowed him, and that such broader claims were rejected by the Office and withdrawn by him. He must, therefore, be considered as limited strictly and specifically to his details of construction *in which his tongue and groove arrangement* and the *direct sliding* of the spool-carrier frames from one twister-wheel to another form necessary and indispensable elements. In view of all the foregoing, it seems to us plain that the claims of the Pope patent sued on are limited to specific constructions and that any attempt to enlarge them beyond the specific elements required by their terms, the state of the art and the proceedings in the Office will be to give them more than they are entitled to, and, in fact, render them invalid as overlapping and covering the prior art.

The structure called for in the claims of the Pope patent sued on requires that the twister-gears *shall have grooves in their front faces*—T-shaped grooves—grooves capable of receiving, supporting and sustaining the spool-carrying frames with their spools, and requires that the spool-carrying frames shall be provided with longitudinal projections or T-shaped *tongues* on their *rear* faces, adapted to be received in the T-shaped grooves and to be held and supported therein while being revolved and carrying the wire spools and doing their work.

Infringement of the Pope Patent.

Mr. Wiles, the defendants' expert, has pointed out the differences between the machine of the Pope patent and the defendants' machine, and, as it appears to us, clearly established their essential and radical dissimilarity. We will refer to his deposition, beginning at page 169, if the court should desire to read it in full on the question of infringement.

When we were cross-examining the complainants' leading expert, Mr. Dayton, we asked a number of questions to bring out in direct and specific form the differences in construction and operation that exist between the Pope patented machine and the defendants' machine. While the answers to these questions were in many cases long, elaborate, involved and technical, yet they concede many marked and radical differences between the machines, both in their construction and their operation. We will quote some of these questions and answers, beginning at page 82:

"X-Q. 142. In the Pope machine the twister

wheels are provided with T-shaped grooves in their faces or flat front surfaces, and the spool carriers are provided with T-shaped tongues which enter such grooves in the faces of the wheels, while in defendant's machine there are no T-shaped tongues on the spool carriers entering T-shaped grooves in the faces of the twister wheels. Is not this correct?

"A. As I have already explained, this is literally correct and only literally correct, the defendant's machine having the essentials of the T element referred to in the question, for the same purpose and productive of the same result.

"X-Q. 143. In the Pope machine all of the spool carriers on the respective sides of the spindles are engaged by sliding bars, while in the defendant's machine there are no sliding bars and the spool carriers are not connected to or engaged by longitudinal sliding bars. Is not this correct?

"A. It is. . . .

"X-Q. 145. In the Pope machine the twister wheels are stationary while the spool carriers are being transferred, while in the defendant's machine the twister wheels are rotating during the act of transference of the spool carriers from one spindle to another; is not this correct?

"A. Not exactly, the statement is true as to the Pope machine but not exactly as to the defendant's machine. . . .

"X-Q. 146. In the Pope machine, if we attempt to rotate the twister wheels during the act of transference of the spool carriers we will frustrate the transference, while in the defendant's machine if we attempt to keep the twister wheels stationary during the act of transference we will frustrate the transference. Is not this correct?

"A. Yes.

"X-Q. 147. In the Pope machine the transference of the spool carriers is effected by means of a hand lever, independent of the crank for actuating the twisters, while in the defendant's machine the transference of the spool carriers is effected by the crank for actuating the twisters and not by separate and independent means. Is not this correct?

"A. That is correct. . . ."

From the above study of the Pope patent and comparison of it with the defendants' machine we find that there are many important differences, both in construction and in operation. We will state some of these differences, as they seem to us to be decisive of the question of infringement.

In the Pope machine the twister-wheels are provided with *T-shaped grooves in their faces,* while in the defendant's machine this is not the case, as such wheels are *not* provided with T-shaped *or other kinds* of grooves in their faces.

In the Pope machine the spool-carrier is provided with a *T-shaped tongue* adapted to be received in the T-shaped groove in the face of the twister, while in the defendants' machine this is not the case, as the spool-carrier is not provided with a T *or other shaped tongue.*

In the Pope machine the twister-wheels and the spool-carriers could not be engaged, nor the spool-carriers shifted, were they *unprovided* with T-shaped grooves and T-shaped tongues respectively, while in the defendants' machine this is not the case, as the machine would be *inoperative* if *such* method of engagement beween the twister-wheels and the spool-carriers were attempted.

In the Pope machine all of the spool-carriers on the respective sides of the spindles are shifted up and down by *sliding bars simultaneously* engaging all on a side and transferring them as a *single* operation, while in the defendants' machine this is not the case, as there are *no sliding bars* and the spool-carriers are not transferred as

a single operation, but each *separately* and independently of the others.

In the Pope machine the spool-carriers are transferred from one spindle to another by a *direct sliding movement* along a *straight* line, while in the defendants' machine this is not the case, as they are transferred by a *rotary* movement and through a *curved* line.

In the Pope machine the twister-wheels are *stationary* during the act of transference, while in the defendants' machine this is not the case, as the twister-wheels are *rotated* and *must be* rotated during the act of transference.

In the Pope machine the transference will be frustrated if it be attempted to *rotate* the twister-wheels *during* the act of transference, while in the defendants' machine this is not the case, as the transference would be frustrated if the twister-wheels were *stationary* and *not* rotated.

In the Pope machine the transference of the spool-carriers is effected by means of *a hand-lever* independently of the crank for actuating the twisters, while in the defendants' machine this is not the case, as the transference is effected *by the crank* in the operation of the machine and not by a *separate* lever or part.

In the Circuit Court Judge Baker, in deciding the case, attached importance to the above differences and considered them decisive of the question of infringement, saying on page 520:

> "In the Pope machine the twister wheels are provided with T-shaped grooves in their faces, while the defendants' machine is not provided with any

kind of grooves on their wheel faces; in the former the spool-carrier is provided with a T-shaped tongue adapted to be received into the T-shaped groove in the face of the twister wheel, while in the latter such groove and tongue are entirely wanting; in the former the twister wheels and spool-carriers cannot be engaged nor the spool-carriers shifted without the T-shaped grooves and tongues, while the latter would be inoperative if such method were attempted; in the former all the spool-carriers on the respective sides of the spindles are shifted up and down by sliding bars simultaneously engaging all on one side and transferring them as a single operation, while in the latter there are no sliding bars, and the spool-carriers are not transferred as a single operation, but each is transferred separately and independently; in the former the spool-carriers are transferred from one spindle to another by a direct, sliding movement along a straight line, while in the latter they are transferred by a rotary movement and through a curved line; in the former the twister wheels are stationary when being transferred, while in the latter they are, and must be, rotative; in the former the transfer of the spool-carriers is effected by means of a hand lever independently of the crank for actuating the twister wheels, while in the latter the transfer is effected by the crank in the operation of the machine. In view of these differences the court fails to find the substantial identity of means and operation without which there can be no infringement."

In view of these differences—admitted by the complainants' leading expert and found by Judge Baker—so radical and striking as they seem to us, it is plain that there is not in the Pope machine and in the defendants' machine that identity of means, of operation and of result which are required before the court can hold that there is infringement. No one except by generalizing and using the broadest and most comprehensive terms, and even

distorting them from their plain and obvious meaning, can find in the defendants' machine the mechanical parts and elements required in the Pope patented machine, and any such broad and general language must, in order to cover the defendants' machine, equally cover the machines of the prior art.

General Suggestions.

All patents are addressed to those skilled in the art to which they pertain or to those skilled in the nearest analogous art. Let us assume that we gave the Davisson, the Kitselman, the Connor and the Pope patents to men skilled in mechanics, in the reading and understanding of specifications and drawings, and in the construction of machines, and specially skilled in the construction of machinery for the manufacture of woven-wire fabrics. Let us suppose, in fact, that the men to whom we gave these patents were acquainted with the construction and operation of all the patents that had been issued prior to the issuance of the particular patents in suit. Let us suppose that we gave the Davisson, the Kitselman, the Connor and the Pope patents to these men thus skilled in the art, and directed them to manufacture the inventions which they found in these patents, following the instructions conveyed to them by the specifications and drawings of these patents, respectively, when read in view of their knowledge of the prior art. Is it reasonable to suppose that these men or that any of them, following the instructions and directions thus given them, and seeking to embody in physical form the inventions of the Davisson, the Kitselman, the Connor and the Pope patents, would produce the defendants' machine, or anything that looked like, or resembled, the defendants' machine! The state-

ment of the question shows that it would be proposterous to expect that they would produce the defendants' machine or anything like it. And yet there can be no infringement unless those skilled in the art by following the directions of the patents, and without the exercise of invention on their part, can produce the defendants' machine. The defendants' machine to be an infringement must involve nothing beyond mere mechanical departures from the patent sued on so far as the parts covered by their claims are concerned. Its parts must be the same, or mechanical equivalents, before infringement can be found, but we submit that no one skilled in the art and guided and directed by the Davisson, the Kitselman, the Connor and the Pope patents could, by the exercise of mere mechanical skill, produce the defendants' machine. This, we submit, affords a decisive test of the question of infringement. Before the court can say that there is infringement, it must be evident that the defendants' machine could have been made from the patents sued on without further direction or instruction.

In view of all the foregoing, therefore, we submit and insist that the defendants' machine does not infringe any of the claims of the patents sued on.

Conclusion.

In conclusion we desire to submit and insist that all of the patents sued on are invalid when *broadened* to cover the defendants' machine, because when so broadened they are fully met and invalidated by the prior art; that when properly construed and in a way that enables the court to uphold their validity they are narrow, restricted,

detailed, improvement patents, founded upon the prior art as initiated by Nesmith and as enlarged, developed and improved by other toliers in the same field before their respective patentees appeared on the ground; that the defendants' machine is so radically different in construction and operation that it cannot, in consonance with established legal principles governing the construction of patents and defining the rights of patentees, be held or considered as for the same thing or as in any way an infringement upon the claims of the patents sued on; and that as to the Kitselman patent the complainants have failed to prove such a title as should permit them to recover even though the court consider that there was infringement.

Respectfully submitted,

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